

REMARKS

The Office Action dated July 11, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-3, 5-11, 13-19, and 21-26 are currently pending in the application. The Office Action indicated that claims 2, 5-7, 10, 13-15, 18, 21-23, 25 and 26 have been allowed. Applicants wish to thank the Examiner for the allowance of these claims.

By this Amendment, claims 1, 9, and 17 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added. Claims 1, 3, 8, 9, 11, 16, 17, 19, and 24 are respectfully submitted for reconsideration.

The Office Action rejected claims 1, 3, 8, 9, 11, 16, 17, 19, and 24 under 35 U.S.C. §103(a) as being unpatentable over Chizhik (U.S. Patent Pub. No. 2004/0203395) in view of Geier (U.S. Patent No. 5,525,998). The Office Action took the position that Chizhik discloses all of the elements of the claims, with the exception of the estimation of Doppler frequency compensation utilizing information on system geometry. The Office Action then cited Geier as allegedly curing this deficiency in Chizhik. This rejection is respectfully traversed for at least the following reasons.

Claim 1, upon which claims 3 and 8 are dependent, is directed to a method for compensating Doppler shift in a telecommunication system, where at least one user terminal is moving in relation to a network element. The method includes measuring a

received uplink signal, estimating an amount of Doppler frequency compensation for at least one downlink signal related to a user terminal based upon a measured received uplink signal, compensating a Doppler shift for at least one downlink signal related to the user terminal by shifting a frequency of the signal according to the estimated amount of Doppler frequency compensation, and informing a handover target cell of a required Doppler shift compensation while performing a handover. The estimation of Doppler frequency compensation utilizes information on system geometry.

Claim 9, upon which claims 11 and 16 are dependent, recites a data transmission system for compensating Doppler shift in a telecommunication system in which system at least one user terminal is moving in relation to a network element. The system includes means for measuring a received uplink signal, means for estimating an amount of Doppler frequency compensation for at least one downlink signal related to a user terminal based upon the measured received uplink signal, means for compensating a Doppler shift for at least one downlink signal related to the user terminal by shifting the frequency of the signal according to the estimated amount of Doppler frequency compensation, means for informing a handover target cell of a required Doppler shift compensation while performing a handover, and means for utilizing, in the estimation of Doppler frequency compensation, information on system geometry.

Claim 17, upon which claims 19 and 24 are dependent, recites a network element for compensating Doppler shift. The network element includes a receiving unit configured to receive measurement results regarding uplink signals, an estimating unit

configured to estimate an amount of Doppler frequency compensation for at least one downlink signal based upon a measured uplink signal, a compensating unit configured to compensate a Doppler shift for at least one downlink signal by shifting a frequency of the signal according to the estimated amount of Doppler frequency compensation, an informing unit configured to inform a handover target cell of a required Doppler shift compensation while performing a handover, and a geometry unit configured to utilize in the estimation of Doppler frequency compensation information on system geometry.

As will be discussed below, the combination of Chizhik and Geier fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Chizhik discloses a method and apparatus for reducing the observed rate of change of the channel characteristics in a system with multiple antennas at a mobile terminal. The slowing down of the observed channel fluctuations is effectuated on the downlink by either calculating or receiving signals that have a similar Doppler shift (Doppler-compensatable signals) and processing one or more of the Doppler-compensatable signals to compensate for Doppler shift. The slowing down of the observed channel fluctuations is effectuated on the uplink by pre-compensating symbol streams with the Doppler shift associated with the direction in which they are transmitted, so that the observed Doppler shift of these signals when they are received is reduced or even eliminated.

Geier discloses an odometer assisted global positioning system (GPS) method which operates in a vehicle to indicate the position of the vehicle. The vehicle has an

odometer, a processor, and a GPS receiver. The method knows the last position of the vehicle and finds a measured Doppler and a measured pseudo range for each satellite of the GPS which is in line of sight with the vehicle. The processor determines the Doppler compensation to the measured Doppler. The processor combines the speed of the vehicle with the Doppler compensation to the measured Doppler in order to produce a new heading of the vehicle. The processor combines the last known position of the vehicle with the new heading and with the Doppler compensation and the measured pseudo range to provide a new position of the vehicle.

Applicants respectfully submit that the combination of Chizhik and Geier does not disclose or suggest all of the elements of the present claims. For example, Chizhik and Geier, whether considered individually or combined, does not disclose or suggest “informing a handover target cell of a required Doppler shift compensation while performing a handover,” as recited in claim 1 and similarly recited in claims 9 and 17.

As outlined above, Chizhik is merely concerned with the reduction of the observed rate of change of the channel characteristics in a multi-output system. Chizhik does not make any mention of informing a handover target cell of a required Doppler shift compensation while performing a handover. Geier also fails to disclose or suggest this feature recited in claims 1, 9, and 17. Geier is merely directed to using odometer data to attempt to fill gaps in GPS triangulation data. Accordingly, the combination of Chizhik and Geier does not disclose or suggest that the handover target cell is informed of a required Doppler shift compensation while performing a handover.

Therefore, Applicants respectfully submit that Chizhik and Geier do not disclose or suggest all of the elements of claims 1, 9, and 17. As such, Applicants respectfully request that the rejection of claims 1, 9, and 17 be withdrawn.

Claims 3, 8, 11, 16, 19, and 24 are dependent upon claims 1, 9 and 17, respectively. Accordingly, claims 3, 8, 11, 16, 19, and 24 should be allowed for at least their dependence upon claims 1, 9 and 17, and for the specific limitations recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the cited prior art fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-3, 5-11, 13-19, and 21-26 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Majid S. AlBassam
Registration No. 54,749

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

Enclosures: Petition for Extension of Time